

Effects of anxiety on decision making and visual search behaviour in complex sport situations

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Introduction

Negative emotions such as anxiety affect cognitive and motor performance in stressful situations (Eysenck et al., 2007; Causer et al., 2011). Distracting theories such as the **Attentional Control Theory** interpret anxiety as an aversive emotional state that occurs as a result of threat leading to longer response times and higher mental effort ratings (efficiency) while response accuracy (effectiveness) is mostly unaffected. The balance between top-down and bottom-up processes and especially the inhibition and shifting function of the central executive are impaired through anxiety (Eysenck et al., 2007).

How does anxiety affect attentional control in complex time-constrained sport situations?

Methods

Groups & Task: 22 participants (11 high skilled vs. 11 less skilled) viewed 24 complex football situations in high (HA) vs. low (LA) anxiety conditions (counterbalanced) from the perspective of the last defender. The task was to decide as fast and accurate as possible on the next action (e.g., pass, dribble, shot) of the player in possession who was either near or far from the participants viewing position (equal numbers of near and far distance conditions, counterbalanced).



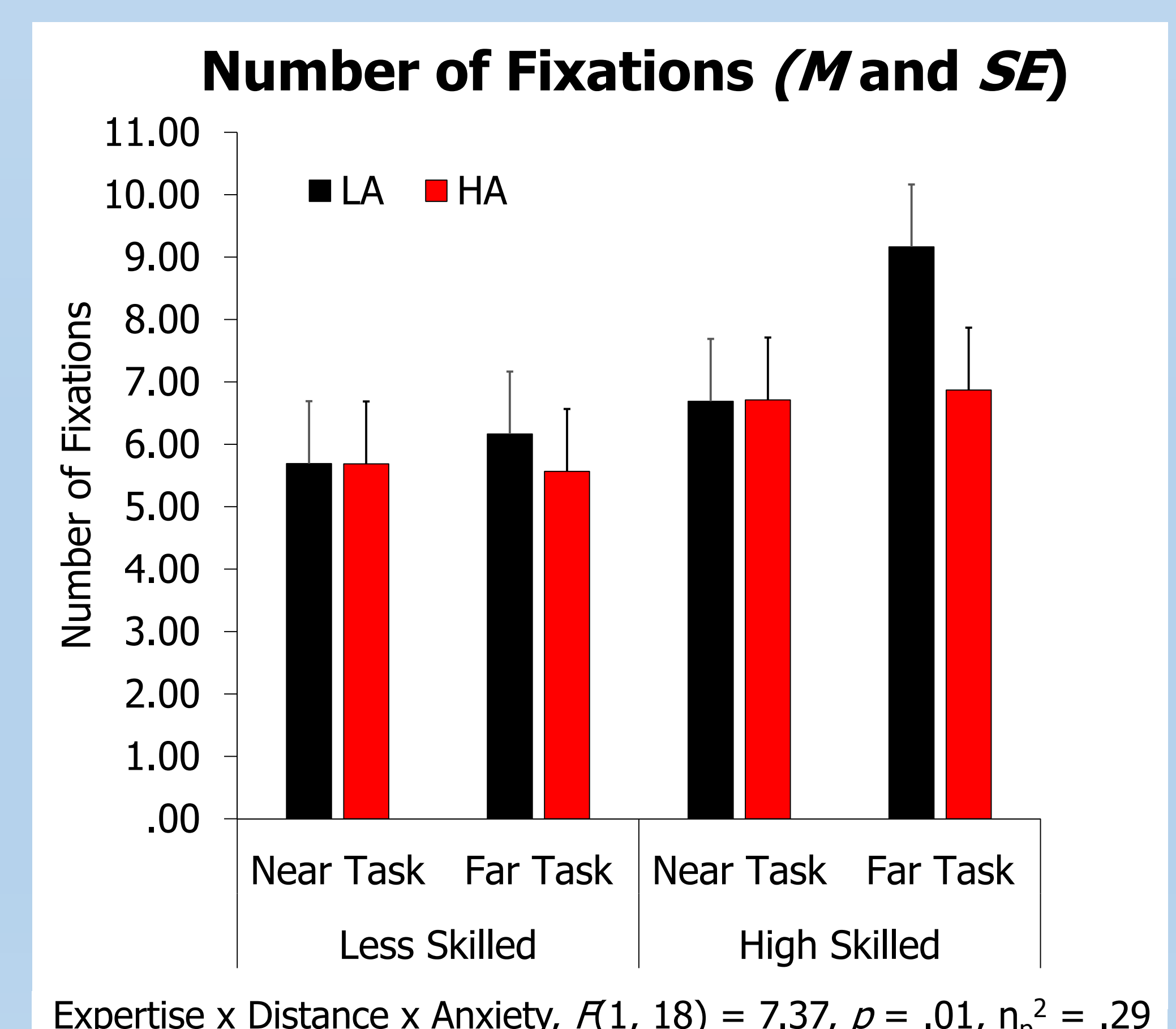
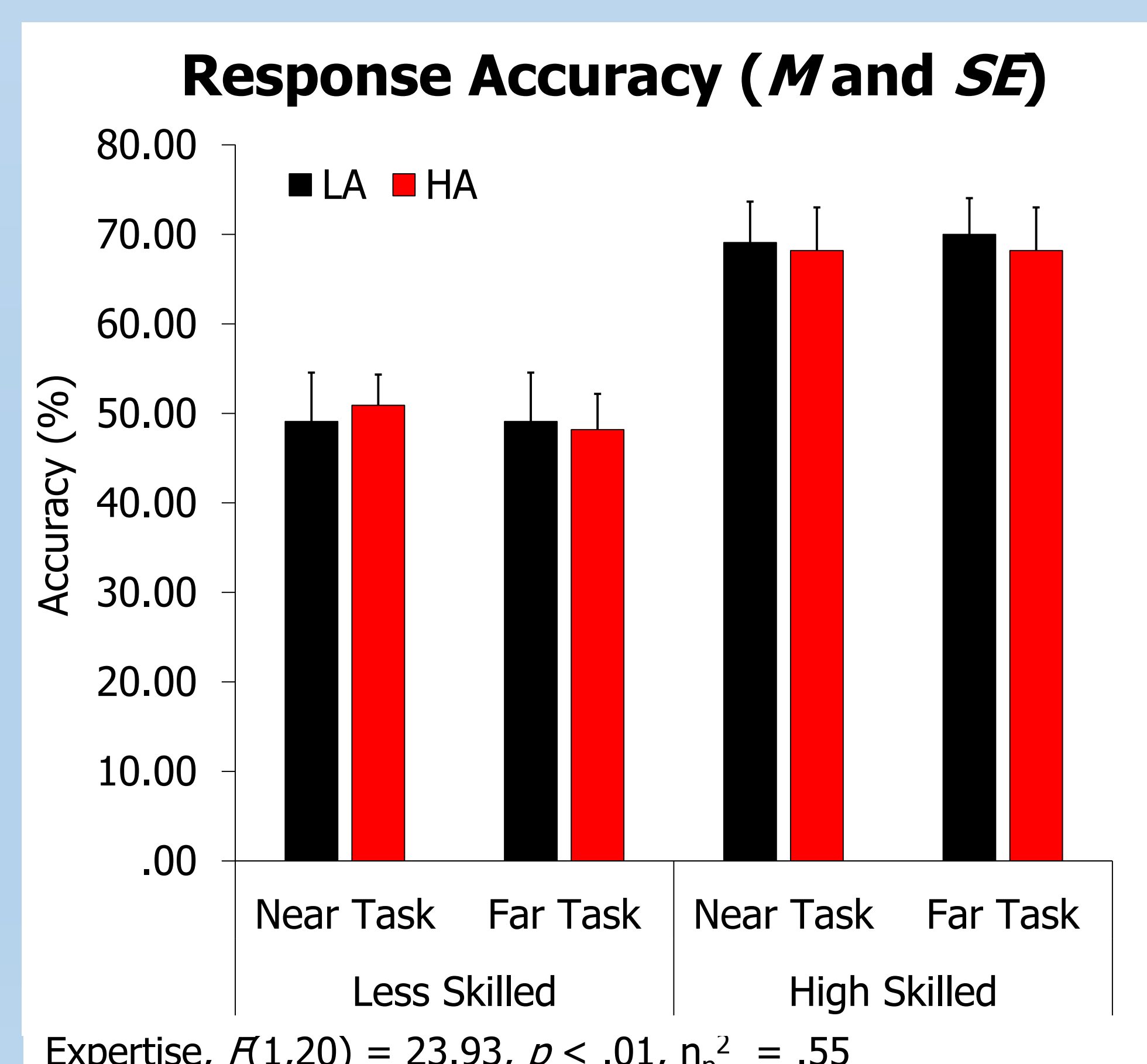
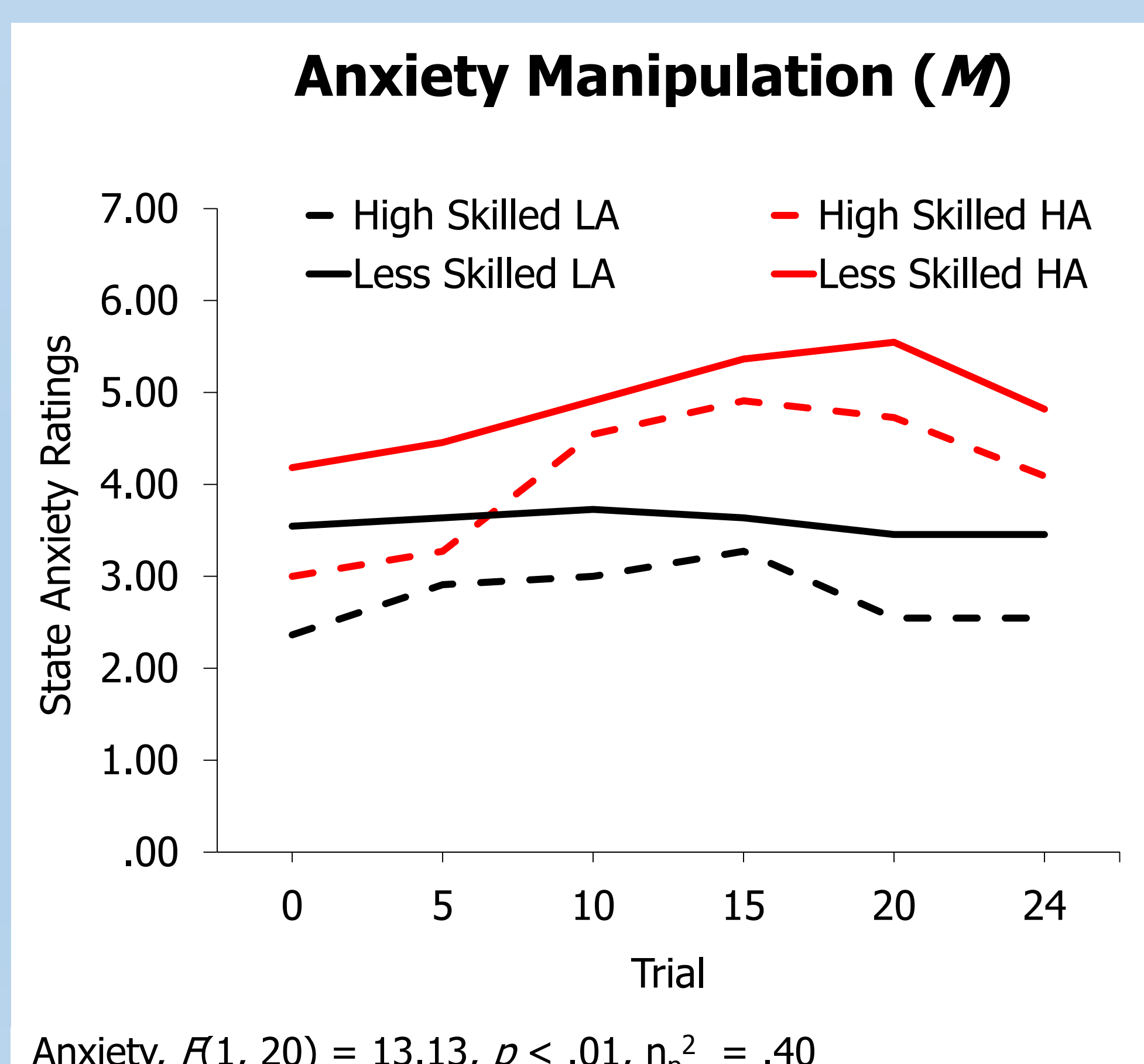
Anxiety Manipulation: Competitive environment, false feedback and ego threats.

Measures & Analysis: Decision time and accuracy, gaze behaviour (e.g., number of fixation locations) as well as mental effort were used as dependent variables and analysed with 2 (expertise) x 2 (distance) x 2 (anxiety) ANOVAs with repeated measures on the last two factors.

Hypotheses:

- Expertise differences in response accuracy and response time.
- Reduced performance efficiency in HA condition but constant effectiveness.
- Impaired gaze behaviour in HA condition.

Results



Conclusions

- Anxiety led to decreased efficiency in both groups (higher response times and mental effort ratings) but performance effectiveness (response accuracy) was unaffected.
- Anxiety decreased the number of fixation locations in the far task condition for the high skilled group which could be explained through impaired top-down attentional control (shifting function).

References

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